B1

07/817,575, filed January 7, 1992, now abandoned, the full disclosures of which are incorporated herein by reference.--

IN THE CLAIMS:

Please cancel claim 82, amend claims 80, 81, 83, 90 and 99-102 and add new claims 138-159 as follows:

1

~~80.~~ (Amended) A method for applying electrical energy to a target site on a body structure on or within a patient's body, the method comprising:

positioning an electrode terminal into at least close proximity with the target site in the presence of an electrically [conducting] conductive fluid;

positioning a return electrode within the electrically [conducting] conductive fluid such that the return electrode is not in contact with the body structure to generate a current flow path between the electrode terminal and the return electrode; and

B2

applying a high frequency voltage difference between the electrode terminal and the return electrode such that an electrical current flows from the electrode terminal, through the region of the target site, and to the return electrode through the current flow path.

2 1

~~81.~~ (Amended) The method of claim ~~80~~ wherein the electric current flows substantially through the electrically [conducting] conductive fluid while minimizing electric current flow passing through the body structure.

~~82.~~ Canceled.

3 1

B3

~~83.~~ (Amended) The method of claim ~~80~~ further comprising immersing the target site within a volume of the electrically conductive fluid and positioning the return electrode within the volume of electrically conductive fluid to generate the current flow path between the [target site] electrode terminal and the return electrode.

B4C1

90. (Amended) The method of claim 80, wherein the return electrode is located

b

on a distal end of an instrument shaft [the probe], further comprising an insulating matrix [at the distal tip of] on the probe between the return electrode and the electrode terminal, the insulating matrix comprising an inorganic material.

99. (Amended) The method of claim 84 wherein the electrode terminal is located on the distal end of a probe, and wherein the delivering step comprises supplying the electrically [conducting] conductive fluid to a proximal end of an axial lumen within the probe and directing the fluid through a distal end of the axial lumen to the electrode terminal

100. (Amended) The method of claim 84 further including positioning a distal end of a fluid supply shaft adjacent the electrode terminal, the delivering step comprising directing the electrically [conducting] conductive fluid through an inner lumen in the fluid supply shaft that is electrically connected to the return electrode and discharging the fluid through an open distal end of the supply shaft towards the electrode terminal.

101. (Amended)) The method of claim [99] 84 wherein the electrode terminal is located on a distal end of a probe and the return electrode is an inner tubular member defining an axial lumen [electrically connected to the inner tubular member], the delivering step including directing electrically [conducting] conductive fluid through the [inner] axial lumen to the distal end of the probe over the electrode terminal.

102. (Amended) The method of claim 99 wherein the return electrode is an outer tubular member defining an axial passage between the outer surface of the probe and the inner surface of the outer tubular member, the delivering step including directing the electrically conducting fluid through the [inner lumen] axial passage to the distal end of the probe over the electrode terminal.

Please add the following new claims:

--138. (New) A method for applying electrical energy to a target site on a body structure on or within a patient's body, the method comprising:

contacting an active electrode with the body structure in the presence of an electrically conductive fluid;

spacing a return electrode away from the body structure in the presence of the electrically conductive fluid; and

applying a high frequency voltage difference between the electrode terminal and the return electrode such that an electrical current flows from the electrode terminal, through the electrically conductive fluid, and to the return electrode.

24 23
~~139~~. (New) The method of claim ~~138~~ wherein the electric current flows substantially through the electrically conductive fluid while minimizing electric current flow passing through the body structure.

25 23
~~140~~. (New) The method of claim ~~138~~ wherein at least a portion of the electric current passes through the body structure.

23
141. (New) The method of claim ~~138~~ further comprising immersing the target site within a volume of the electrically conductive fluid and positioning the return electrode within the volume of electrically conductive fluid to generate a current flow path between the electrode terminal and the return electrode.

27
~~142~~. (New) The method of claim 138 further comprising delivering the electrically conductive fluid to the target site.

143. (New) The method of claim 138 wherein the electrode terminal comprises a single active electrode disposed near the distal end of an instrument shaft.

144. (New) The method of claim 138 wherein the electrode terminal includes an array of electrically isolated electrode terminals disposed near the distal end of an instrument shaft.

32 23

145. (New) The method of claim 138 wherein the electrically conductive fluid comprises isotonic saline.

146. (New) The method of claim 138 including independently controlling current flow to the electrode terminal based on electrical impedance between the electrode terminal and the return electrode.

147. (New) The method of claim 138 wherein the return electrode is spaced from the electrode terminal such that when the electrode terminal is brought adjacent a tissue structure immersed in electrically conductive fluid, the return electrode is spaced from the tissue structure and the electrically conductive fluid completes a conduction path between the electrode terminal and the return electrode.

148. (New) The method of claim 138, wherein the return electrode is located on a distal end of a probe, further comprising an insulating matrix at the distal tip of the probe between the return electrode and the electrode terminal, the insulating matrix comprising an inorganic material.

36 35

149. (New) The method of claim 148 wherein the inorganic material is selected from the group consisting essentially of ceramic, glass and glass/ceramic compositions.

150. (New) The method of claim 138 further comprising applying a sufficient voltage difference between the return electrode and the electrode terminal to effect the electrical breakdown of tissue in the immediate vicinity of the electrode terminal.

151. (New) The method of claim 138 further comprising measuring the temperature at the target site and limiting power delivery to the electrode terminal if the measured temperature exceeds a threshold value.

52

152. (New) The method of claim 138 further comprising applying a sufficient high frequency voltage difference to vaporize the electrically conductive fluid in a thin layer over at least a portion of the electrode terminal and to induce the discharge of energy to the target site in contact with the vapor layer.

153. (New) The method of claim 152 wherein at least a portion of the energy induced is in the form of photons having a wavelength in the ultraviolet spectrum.

154. (New) The method of claim 152 wherein at least a portion of the energy is in the form of energetic electrons.

155. (New) The method of claim 138 wherein the voltage is in the range from 500 to 1400 volts peak to peak.

156. (New) The method of claim 138 further comprising generating a voltage gradient between the electrode terminal and tissue at the target site, the voltage gradient being sufficient to create an electric field that causes the breakdown of tissue through molecular dissociation or disintegration.

157. (New) The method of claim 138 wherein the electrode terminal is located on the distal end of a probe, and wherein the delivering step comprises supplying the electrically conductive fluid to a proximal end of an axial lumen within the probe and directing the fluid through a distal end of the axial lumen to the electrode terminal

158. (New) The method of claim 138 further including positioning a distal end of a fluid supply shaft adjacent the electrode terminal, the delivering step comprising directing the electrically conductive fluid through an inner lumen in the fluid supply shaft that is electrically connected to the return electrode and discharging the fluid through an open distal end of the supply shaft towards the electrode terminal.